

Pam
Indians

Photographed by A. C. Vroman

A VIEW IN THE PETRIFIED FOREST

Ancient Peoples of the Petrified Forest of Arizona*

BY WALTER HOUGH

Of the United States National Museum

THE Petrified Forest of Arizona would alone be enough to absorb the entire attention of any visitor. When one has the opportunity likewise of scouring the region for traces of the ancient peoples who once lived there, he is doubly fortunate, especially if the quest be successful. It happened, as the result of journeys through the forest and around its borders, in the interest of the United States National Museum, last summer, that to the marvels which expand the fifth sense of wonder we may now add the needed touch of human interest.

For here lived and loved, builded, fought, starved, and perhaps at times dined on one another, tribes of the ancient pueblo-dwellers. From the relics that remain it is found that four different stocks of Indians have lived here. No other section of the Southwest can show so many, and this in a locality without permanent springs. One of these tribes may unhesitatingly be identified as Hopi—perhaps a clan on its northward migration to Tusayan; another, with less sureness, may be related to Zuñi. The remainder are at present enigmas, and belong to peoples in a low state of advancement as compared with the former.

The reconnoissance of these ruins led

* Published by permission of the Secretary of the Smithsonian Institution.

to an acquaintance with the "Petrified Forest and its surroundings that well repaid the labor.

The little station of Adamanna, on the Santa Fe, whose name is a tribute to the grizzled genius of the forest, is the introduction. If the traveller but knew it, a short walk from Adamanna would bring him upon a fine ruin, one hundred and fifty feet square, well laid out, and exhibiting on the rocks below it as interesting a picture-gallery of the ancient petroglyphs as one might hope to find. Standing also at the Petrified Bridge—a colossal shaft of chalcedony spanning a chasm—one may see, with the aid of a glass, a conical hill to the southwest, crowned with a ruin, beyond the streak of tawny wash where horses paw for water. The ancient builders of this ruin were connoisseurs of stone and adepts at its working, if they were not strong in pottery. On the flanks of the butte and along the ravines are circles of large slabs of stone standing upright, many of the stones worked out as metates or corn-grinding slabs, and hence the ruin was called "Metate Ruin." Not the least interesting feature of this ruin is that it is an enigma; the people who once lived here were not related in any way to the others of this region. Even the group of three small pueblos, not a thousand feet away, on

the ruin above Metate Ruin, were homes of a different people, and perhaps of a different time.

Following the road among the mesas, one passes through a canyon, emerges into the third or great forest, and sees a chaos of broken trunks of Triassic *Araucarioxyla*, winnowings of ages from the rock bed above, the ground strewn with splinters of lovely colors, with the glint of rock-crystal and amethyst, the setting of strange sculpture forms around a basin of sand and sage-brush, and, above, the unclouded sun and clear blue sky.

In the basin of the forest the rapid erosion has played havoc with the ruins, leaving them mere heaps of stones; the cemeteries, with their pottery and relics, have been washed away by the cloudbursts and fierce winds. Frequently on the edge of a mesa will be found remaining a narrow fringe of a pueblo, soon to go down the gullies among the round-backed "bad lands," and the site of what must once have been a sizable village looks now as though it had been only a camping-place. So there is little left for the archaeologist, who must content himself with noting the location of the ruin and the character of the potsherds scattered about, for pottery furnishes the clew as to the people.

The tribes that held the region of the



Photographed by A. C. Vroman



AN ANCIENT SHRINE

Petrified Forest built no large pueblos, but were content to live in small villages, forming the homes of larger families of blood relatives called clans, moving about in common when they migrated, and building not far from one another. These clusters of pueblos are familiar to one who knows the Southwest; usually, when a ruin is located, others may be found near by. The Seven Cities of Cibola illustrate this.

When the first men crept into this gorgeous but inhospitable land they found black lava-capped mountains, fantastic hills carved from the tinted marls, lofty stone-girdled mesas, wide plains, and treacherous sand rivers, which became at times raging torrents of tawny water. Game there was—of antelope, deer, and other smaller animals—more than now, and desert plants were available for food. But greater than these precious means of subsistence were the seeds they cherished, and greatest was

“the seed of seeds”—corn. The secret of the peopling of the semi-arid Southwest is corn.

On the northern rim of the forest is a high, rolling prairie, broken on the east by mesas dotted with a few scattered junipers. Here were discovered four low, shard-strewn mounds of former villages and the remains of several small house sites. This proved to be virgin soil for the explorer, no “pottery-digger” having rifled the ancient sites.

The ancients of the forest rim built their pueblos to face their east, corresponding to our northeast, while to the southwest the villages presented a blank wall of two or more stories. Before the eastern opening may be traced the low mound of debris beneath which are ranged the dead, lying at length to face northeast, having their treasures of finest pottery, beads, and other things regarded as precious and of use to them. Looking toward the eastern horizon, one

is struck by the sky-line, diversified with blue mesas stretching from Escudilla Peak of the White Mountains, low in the southeast, to the high mesas standing along the Puerco River on the northeast. This formed a splendid dial, along which the sun-worshippers traced the seasonal course of the sun, and for this reason they oriented their villages to face the rising of the "Father" at the winter solstice. To this day the indented horizon is the calendar of the Hopi, Zuñi, and other pueblo tribes.

Here and there without the villages remain shrines, consisting of either heaps of stones, odd in color or shape, gathered from far and near, like some of the shrines at Zuñi, or a section of petrified wood set upright over against spheres of red granite and weathered volcanic rock. Stones of strange forms are believed by the Zuñi to be the shrivelled remains of monsters of the early time, destroyed by the great fire of the Twin Gods, and are valued as fetiches, having still the magic power of those animals.

Near one of the ruins a large heap of these fetiches was found, and among the stones were a number of tubular pipes, skilfully made of lava. A few feet from this altar was a square fire-hole, lined with slabs of sandstone, containing many

pieces of calcined rock. This spot was no doubt a meeting-place of the priests, probably surrounded with a hedge of juniper boughs, like a Navajo medicine-lodge.

Fascinating as were these superficial examinations of the ancient towns, the shovels of the Mexican laborers soon revealed matters of surpassing interest beneath the ground. The location of the cemetery was a comparatively easy matter, as these tribes had placed their dead to the northeast of the pueblos. When the trenches had reached about four feet, large, smooth slabs of sandstone were encountered. Beneath the slabs, which were set slanting, to keep the weight of the earth from the body, careful digging uncovered the skeleton, and about the head would be found a bowl or two, a vase, a cooking-pot, and a dipper. In the bowls frequently remained squash seed, corn, or traces of other food, provision for the journey to the underworld. Awls, hammers of fossil wood, knives, and arrow-heads were frequently encountered. Fragments of coiled baskets, matting, and fabric having a warp of twisted cord sometimes survived in the dry soil. Beads of stone and sea-shell and ornaments of lignite and white stone were plentiful, showing that these



Photographed by L. Bessie Gallaher

pueblos by modern Indian standards would be accounted rich in the things valued by Indians and the chief incentive for their primitive commerce.

It was evident in the cemeteries that the spot due northeast of the pueblos was an area of special significance, as here were interments of people of consequence, with rich belongings, while towards the southeast and on the edges were placed the poor, in shallow earth, with their meagre belongings.

Northeast of the largest pueblo of the group, at a depth of seven feet, the workmen came upon a fine upright slab of sandstone, measuring three by five feet, smoothed, and with rounded edges. After much labor in excavation the slab was removed, and a cist, neatly cut in the white gypsum underlying the soil, was uncovered. The cist contained a skeleton surrounded with ten pieces of pottery, several of them of fine and unique ware, thousands of small beads of white stone, shell beads, a bracelet of shell, a large awl of worked deer bone, fragments of matting and basketry, and a few sticks painted green, to which feathers had been attached. The last are the feathered prayer-sticks, called by the Hopi *pahos*, an invariable accompaniment of the Zuñi and Hopi ceremonies. Shells of the egg of the eagle were also found. When the cist had been cleared out the marks of digging implements, probably sharpened sticks, were visible on its walls, and it was seen that this remarkable sepulture had required an excavation through four feet of hard gypsum before the cist could be scooped out from the face—quite an undertaking with the simple tools possessed by the Indians.

Not far from this spot two rare and splendid bowls were taken out, one of dark red ware, with coiled exterior, over which was painted a meander pattern in white; the interior black, with a lustrous polish. The other is of black and white, thin, and well made, the design key frets in mosaic effect, and in the bottom of the bowl is admirably painted the figure of a frog, one of the sacred animals of the people of the arid country, through its connection with water.

The ruin second in size of this group is most picturesquely situated on a high

cliff overlooking a deep basin scooped from the purple marl. Among the rocks a few juniper-trees, shrubs of the cowania, or cliff-rose, and the berry-bearing aromatic sumac give a touch of life not found in the other ruins on the arid stretches. The bare valley below also looks desolate and forbidding, and the surroundings seem depressing when one has learned that this is the pueblo of the cannibals.

A tragedy of long ago came to light during excavations around this village. In the cemetery, among other orderly burials, was uncovered a heap of broken human bones belonging to three individuals. It was evident that the shattered bones had been clean when they were placed in the ground, and some fragments showed scorching by fire. The marks of the implements used in cracking the bones were still traceable. Without doubt this ossuary is the record of a cannibal feast, and its discovery is interesting to science as being the first material proof of cannibalism among our North-American Indians.

Hard by were taken out over fifty objects belonging to the paraphernalia of a medicine-man: bone tubes; white, black, and green paint; a paint-grinder; quartz, amethyst, carnelian, and topaz crystals; cones, cylinders, and tablets, highly polished, worked from chalcedony; pebbles and concretions of strange form and color; a fossil; beads of stone and shell; a chipped flint drill; a flint knife; and two finely worked bone awls. This remarkable collection is interesting as it gives a clew to the relationships of the inhabitants of these pueblos. Pottery especially, if it bears symbolism, is the best means of identifying the ancient pueblos, and all ethnologists in this field are under obligations for the vessels which were deposited with the dead. In this case the paraphernalia of the medicine-man unearthed is the counterpart of that employed by the priests of Zuñi.

It is remarkable that these people should have located where there is no water. Evidently when the water, collected in natural basins from rainfall, failed, they carried it a long distance from holes dug in the bed of the wash in the Petrified Forest.

Sister Peacham's Turn

BY SARAH ORNE JEWETT

I
THE wind had gone down suddenly after blowing hard until the middle of the afternoon, and Mrs. Pamela Fellows went to the sitting-room closet, where she kept her every-day bonnet and black woollen shawl, and then stood before the little mirror in the clock front to put them straight. The glass was so small that she had to inspect her broad shoulders by sections, but by ducking to see the top of her head, and standing on tiptoe and dodging from side to side, she reassured herself of proper adjustment and equipment, and stepped out to the sidewalk, after locking the door carefully and putting the key deep into her accessible pocket. Then she struck a steady rolling gait and went away down the street with fine energy.

Once she stopped and turned about to look at the western sky. There was a heavy bank of clouds just lifting, and below it all the west was clear, but the cold greenish-blue of its color gave no promise of warmth. "Winter's come," grumbled Mrs. Fellows, half aloud, as she resumed her eastward course. "Looks like the sky at sea this time o' year, crossin' from English ports; goin' to be cold and clear for a day or two, and then look out for snow! I for one like to have some snow for Thanksgivin' time; I ain't like Lyddy Ann; she sets right down an' weeps when the first flakes come."

Half-way down the long street of the straggling town Mrs. Fellows met a familiar friend, Mrs. Peters, who stopped with a frank smile of interest.

"Where be you goin' this cold afternoon? Ain't you settin' forth rather late?"

Mrs. Peters asked the question, with an air of expecting to hear all about the errand.

"I thought I'd go over and see Lyddy Ann before dark," answered the adventurer. "Yes, I thought I'd make haste

and get ahead of her and see if I can't make her invite me over to Thanksgivin'. She needs to make a break; I've asked her to my house six or seven years now, and I thought I should lead up to the subject gradual and ask her what she intended to do; that's the way she always catches me with my mind unprepared, and I've gone an' invited her before I stop to think."

Mrs. Peters laughed; they were very close friends; there was a droll twinkle in the complaining sister's eyes.

"'Twould be a grand thing for her if she could feel that havin' company wouldn't hurt her; she needs more occupation, and not to settle right down expecting to be always done for," said Mrs. Peters, gravely.

"Oh, yes'm, you're quite right," answered Mrs. Fellows, soberly, and the twinkle in her eyes disappeared. "Here we are both of us widows, and own sisters; we're all that's left out of a large family, and she makes use of as much ceremony in asking me over to stop to tea with her as if I was the minister. She's always amiable, but she's fallin' into a way of being plaintive, and oh, so dreadful set! I lost my husband an' his ship with him, but, although bereaved, Lyddy Ann's left in the best o' circumstances. Yes'm, she's dreadful set, an' gettin' more so year by year. Well, I'm goin' to see what I can do to persuade her; if I don't beat, why, she *will*!"

Mrs. Fellows tossed her head gallantly and waved her hand as she departed.

Mrs. Peters laughed aloud. "If I was goin' to bet on who's likely to come out ahead, I'd bet on Lyddy Ann," she exclaimed, with an air of certainty. "Mrs. Fellows is the best-natured heart o' the two; 'tis the biggest heart that always gives up easiest. I guess I'll remember to call over to-morrow and see who gets the invitation. I'm afeard it won't be Pamela, for all her boast and bravery."